14. (Amended) The yarn of claim 13, wherein the second longitudinally-extending constituent comprises conductive polymer.

15. (Amended) The yarn of claim 14, wherein the first longitudinally-extending constituent forms a core of the fiber and the second longitudinally-extending constituent forms a sheath around at least part of the circumference of the core.

Please add the following new claim 101:

101. (New) The yarn of claim 1, wherein the yarn possesses a significant corona current upon application of an appropriate voltage to the yarn.

VERSION WITH MARKINGS TO SHOW CHANGES

1. (Amended) A yarn comprising a plurality of staple fibers chosen from the group consisting of **non-metallic** conductive staple fibers, quasi-conductive staple fibers and mixtures of **non-metallic** conductive and quasi-conductive staple fibers, the fibers from this group making up at least about 35 percent by weight of the staple fibers in the yarn.

4. (Amended) The yarn of claim 1, wherein the plurality of staple fibers comprises at least some **non-metallic** conductive staple fibers.

5. (Amended) The yarn of claim 4, wherein the individual **non-metallic** conductive staple fibers have a DC linear resistance less than about 10^9 ohms per centimeter.

8. (Amended) The yarn of claim 5, wherein at least some of the **non-metallic** conductive staple fibers comprise carbon-loaded polymer.

9. (Amended) The yarn of claim 5, wherein at least some of the **non-metallic** conductive staple fibers comprise polymer loaded with antimony-doped tin oxide.

10. (Amended) The yarn of claim 5, wherein at least some of the **non-metallic** conductive staple fibers comprise non-conductive polymer and are solution-coated with one or more electrically-conductive polymers.

11. (Amended) The yarn of claim 5, wherein at least some of the **non-metallic** conductive staple fibers comprise inherently-conductive polymer.

12. (Amended) The yarn of claim 5, wherein at least some of the **non-metallic** conductive staple fibers are bicomponent staple fibers.

14. (Amended) The yarn of claim **13** [11], wherein the second longitudinally-extending constituent comprises conductive polymer.

15. (Amended) The yarn of claim **14** [12], wherein the first longitudinally-extending constituent forms a core of the fiber and the second longitudinally-extending constituent forms a sheath around at least part of the circumference of the core.

II. RESPONSE TO OFFICE ACTION

Claims 6 and 7 have been cancelled without prejudice, and claims 1, 4, 5, 8, 9, 10, 11, 12, 14 and 15 have been amended. New dependent claim 101 has been added; support for this new claim may be found on pages 15-16 of the present application, as well as in Kessler, LeAnn and Fisher, W. Keith, "A study of the electrostatic behavior of carpets containing conductive yarns,"

J. Electrostatics, 39 (1997) pp. 260-261, which was incorporated by reference into the present application. Claims 1-5, 8-29 and 101 are pending.

Election/Restriction

In response to the restriction requirement interposed by the Examiner, Applicants hereby affirm their election, with traverse, to prosecute claims 1-29 (as well as new dependent claim 101), *i.e.*, the Group I claims.

Claim Rejections – 35 USC § 112

Claims 14 and 15 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Claims 14 and 15 have now been appropriately amended as to resolve this issue. Applicants wish to thank the Examiner for bringing this to Applicants' attention.

Claim Rejections – 35 USC § 102(b)

A. US 4,756,941 to McCullough

Claims 1-5 and 8 stand rejected as anticipated by US 4,756,941 to McCullough. McCullough's disclosure appears to generally describe the preparation of an electroconductive tow or yarn or thin fluff-like web, for use in carpet backing. McCullough, at col. 2, lines 44-64. The individual fibers of the yarn, or the filaments of the tow or web, are described simply as carbonaceous material made from stabilized petroleum pitch, coal tar, or a synthetic fiber forming material such as polyacrylonitrile that is made conductive by heating it to an appropriate carbonization temperature. *Id* McCullough further discloses various methods that may be used to insure that the prepared carbonaceous fibers have a preferred spring-like structure or coil-like configuration capable of reversible deflection (which is said to be helpful to prevent physical degradation of these relatively fragile fibers during their processing). McCullough goes on to state very generally that the carbonaceous material may take the form of continuous filaments or

stable fibers, and that the carbonaceous material can be incorporated into fibers, yarn or tows, or as a separate warp or fill yarn, filament assembly or tape. *Id.* at col.2, lines 44-69. McCullough does not disclose that one should create a yarn wherein at least about 35 percent by weight of the staple fibers present are non-metallic conductive staple and/or quasi-conductive staple fibers. As disclosed in col.5, lines 5-9, the weight percent of carbonaceous fibers in McCullough is 0.5-1%.

Because of this complete lack of specificity in disclosure of McCullough, Applicants respectfully submit that McCullough cannot form a proper basis for an anticipation of any of the present claims. *See Akzo N.V. v. International Trade Comm'n,* 808 F.2d 1471, 1 USPQ2d 1241 (Fed. Cir. 1986) (claims to a process for making aramid fibers using a 98% solution of sulfuric acid were not anticipated by a reference which disclosed using sulfuric acid solution but did not disclose using a 98% concentrated sulfuric acid solution); *see also, In re Meyer,* 599 F.2d 1026, 202 USPQ 175 (CCPA 1979).

B. US 5,026,603 to Rodini

Claims 1, 2, 4, 5, 8, 12-14 and 22-28 stand rejected as anticipated by US 5,026,603 to Rodini. Rodini discloses blends of stable fibers made up of quasi-conductive staple fibers and nonconductive staple fibers. However, Rodini does not appear to disclose a yarn or fiber blend wherein at least about 35 percent by weight of the staple fibers present are quasi-conductive staple fibers. Rather, Rodini notes that it is preferred to prepare a fiber blend containing from about 1 to 5% by weight quasi-conductive staple fibers. *E.g.,* Rodini, at col. 2, lines 19-23. Accordingly, Applicants respectfully suggest that Rodini does not anticipate the present claims.

C. US 3,690,057 to Norris

Claims 1, 2, 4-7, 12, 13, 22-24 stand rejected as anticipated by US 3,690,057 to Norris. Norris discloses the use of a metal-coated polymeric film fibrillated into metallic staple fibers for

use in anti-static yarn. In light of the claim cancellations and amendments that have herewith been made, Applicants respectfully submit that Norris does not anticipate any of the presently remaining claims.

D. US 4,420,534 to Matsui

Claims 1-5, 9, 12-14 and 19-29 stand rejected as anticipated by US 4,420,534 to Matsui *et al.* Matsui discloses a number of continuous bicomponent filaments, and is primarily concerned with methods for producing these filaments. Matsui would appear to disclose that these continuous bicomponent filaments can provide an antistatic property to fiber-containing articles by "mixing" the continuous filaments with non-conductive fibers (*i.e.,* fibers having an electrical charging property), wherein the fibers of the fiber-containing articles may be present in the following forms: (i) continuous filament form; (ii) staple form; (iii) non-crimped form; (iv) crimped form; (v) undrawn form; or (vi) drawn form. Matsui, at col. 14, lines 46-51. In this instance, Matsui would not appear to disclose a yarn having any non-metallic conductive and/or quasi-conductive staple fibers. In this instance, Matsui could not anticipate the present claims.

Matsui teaches that the "usual mix ratio is about 0.1 –10% by weight of the composite [bicomponent] filaments," but then adds, apparently as an afterthought, that "the mixed ratio of 10-100% by weight or less than 0.1% by weight is applicable." Matsui,. at col. 14, lines 46-53. Because of the complete lack of specificity in the disclosure of Matsui, Applicants respectfully submit that Matsui cannot form a proper basis for an anticipation of any of the present claims. *See also, Akzo N.V.* and *In re Meyer, supra.*

Applicants also wish to respectfully point out that to the extent Matsui's generalized disclosure of a "usual mix ratio" about 0.1–10 weight percent bicomponent filaments would have

any relationship to the claimed ratio of staple bicomponent fibers to total staple fibers present, then Matsui would teach away from the present invention.

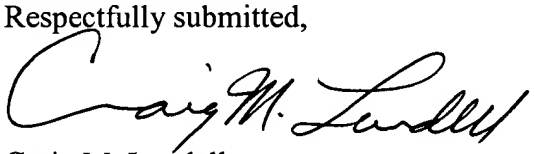
E. US 5,780,572 to Graham

Claims 1-5, 10-18 and 22-25 stand rejected as anticipated by US 5,780,572 to Graham. Graham is concerned with conductive polyaniline salt compositions that are said to be useful for coating films, fibers, or the like. Graham does not appear to disclose a yarn wherein at least about 35 percent by weight of the staple fibers present are conductive or quasi-conductive staple fibers. In fact, Graham does not appear to disclose any particular yarn. Accordingly, Applicants respectfully submit that Graham cannot anticipate the present claims.

Conclusions

In view of the foregoing, the present claims are believed to be allowable. The Examiner is invited to contact the undersigned attorney at (713) 787-1415 with any questions, comments or suggestions relating to the referenced patent application.

Respectfully submitted,



September 30, 2002

Craig M. Lundell
Reg. No. 30,284
HOWREY SIMON ARNOLD
& WHITE, LLP
P.O. Box 4433
Houston, Texas 77210-4433
(713) 787-1415

Attorney for Applicants